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ICS 73.010

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Record Number: 19404-2007

AQ

PROFESSIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国安全生产行业标准

AQ 1029-2007

Application and Management Standard for Coal Mime Safety Monitoring System and Detector

煤矿安全监控系统及检测仪器使用管理规范

Issued on: January 4, 2007 **Implemented on: April 1, 2007**

Issued by the State Administration of Quality and Technical Supervision

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Application and Management Standard for Coal Mime Safety Monitoring System and Detector

1 Scope

This standard specifies the requirements for the devices, design and installation of coal mine safety monitoring system and detector, the setting, application and maintenance of transducer, the information processing of the system and interconnection, management system and technical data etc.

This standard is applicable to the nationwide underground coal mines, including constructed, renovated and extended coal mines.

2 Normative References

The following documents contain provisions which, through reference in this text, constitute provisions of this standard. For dated references, subsequent amendments to (excluding amending error in the text), or revisions of, any of these publications do not apply. However, all parties coming to an agreement according to this standard are encouraged to study whether the latest edition of these documents is applicable. For undated references, the latest edition of the normative document is applicable to this standard.

Safety Regulations in Coal Mine

AQ 6201-2006 General-technical requirements of coal mines safety

AQ 6203-2006 Coal mine low-concentration carrier catalytic methane transducer

MT 423-1995 Technical requirements for methane calibration gas in air

3 Terms and Definitions

The following terms and definitions are applicable to this code.

3.1

Coal mine safety monitoring system

It is a system composed of host, transmission interface, substation, transducer, switching

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off controller, acousto-optic alarm, electric supply box and arrester etc., which keeps the functions of collecting, transmitting, storing, processing, indicating and stamping analog quantity, switching value and cumulant, acousto-optic alarm and control etc., which is used to monitor methane concentration, carbon monoxide concentration, wind velocity, blast pressure, temperature, smog, feed status, air door status, fan drum status, starting and stopping booster fan and starting and stopping host ventilator and realize methane out-of-limit acousto-optic alarm, switching off and methane wind generated electricity locking control.

3.2

Transducer

It is the device converting the measured physical quantity to electrical signal.

3.3

Methane transducer

It is the device continuously monitoring the methane concentration in the pit and drainage pipelines, which generally keeps the function of indication and acousto-optic alarm.

3.4

Air velocity transducer

It is the device continuously monitoring the wind velocity in the mine ventilation tunnel.

3.5

Wind pressure transducer

It is the device continuously monitoring the ventilation pressure at the mine ventilation machine, air door, airtight tunnel and back heading etc.

3.6

Carbon monoxide transducer

It is the device continuously monitoring the carbon monoxide concentration in the pit when the coal layers naturally ignite and the rubber belt of the belt conveyor comes into an inflammation.

3.7

Temperature transducer

It is the device continuously monitoring the environment temperature in the pit.

3.8

Smoke transducer

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It is the device continuously monitoring the smoke concentration arising from the inflammation of the rubber belt of the belt conveyor and the inflammation of the pit etc.

3.9

On off Status Sensor for electromechanical equipment

It is the device continuously monitoring the working state of "open" or "stop" of the electromechanical equipments in the pit.

3.10

Air pipe transducer

It is the device continuously monitoring the "windiness" or "calm air" state in the fan drum of the booster fan.

3.11

Open/Close Sensor for Air Door

It is the device continuously monitoring the "open" or "close" state of the air door of the pit.

3.12

Feed transducer

It is the device continuously monitoring the whether there is voltage at the feed switch or the loading side of the electromagnetic starter in the pit.

3.13

Actuator

It is the device converting the control signal to the controlled physical quantity.

3.14

Acousto-optic alarm

It is the device that is able to give off acousto-optic alarm.

3.15

Switching off controller

It is the device controlling feed switch or electromagnetic starter etc.

3.16

Substation

It is the device used to receive the signal from the transducer in the safety monitoring system and transmit the signal to the transmission interface in a long distance and in the

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